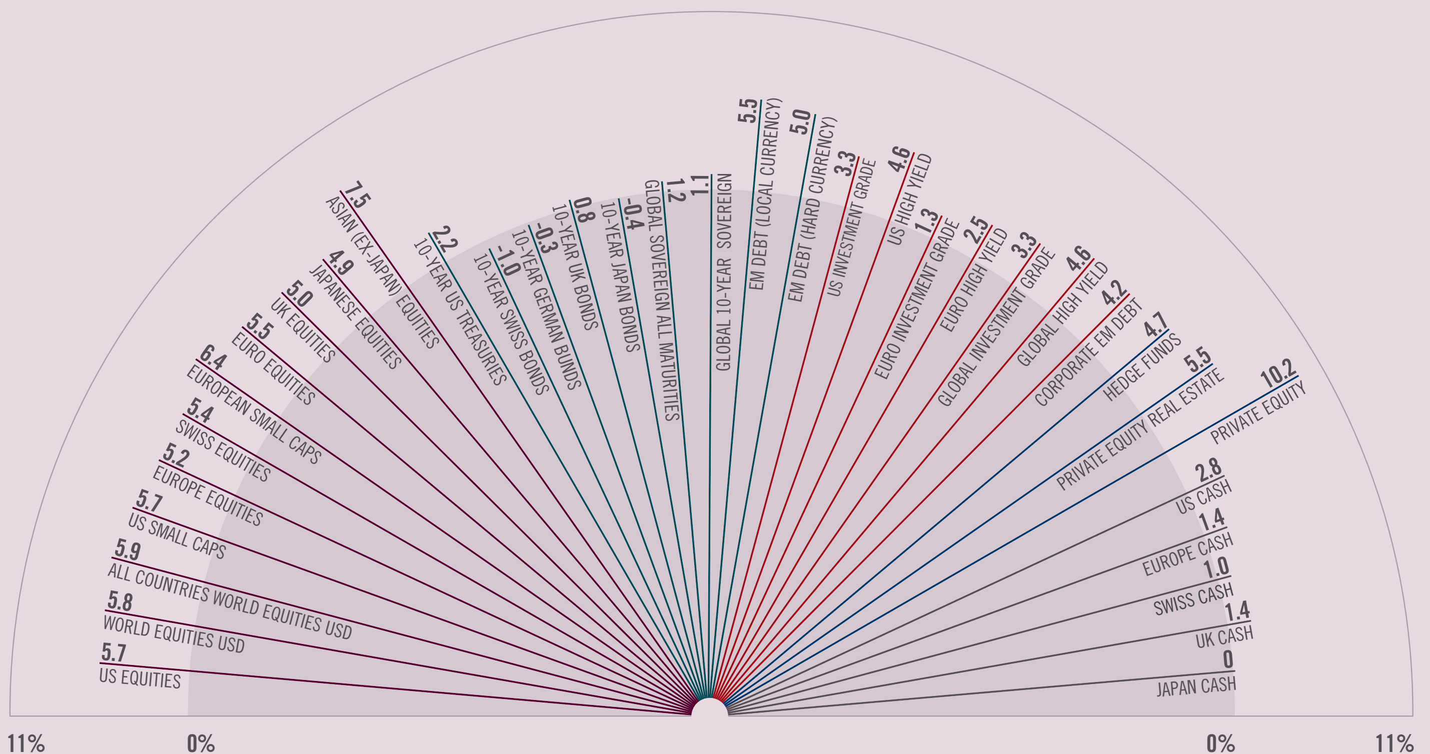
HORIZON: EXECUTIVE SUMMARY

10-YEAR AVERAGE ANNUAL EXPECTED RETURNS (%, IN LOCAL CURRENCY)



Past performance or forecasts are not per se reliable indicators of future performance
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EQUITIES | GOVERNMENT BONDS | CORPORATE BONDS | ALTERNATIVE ASSETS | CASH

Summary table of expected returns for the next 10 years *(Source: Pictet WM-AA&MR)*

23.03.2018	Expected return by currency using modified purchasing power parity (PPP)*				
	Local	CHF	USD	EUR	GBP
CASH					
US cash	2.8%	3.3%	2.8%	2.6%	2.0%
Europe cash	1.4%	2.2%	1.8%	1.4%	0.9%
Swiss cash	1.0%	1.0%	0.8%	0.5%	0.0%
UK cash	1.4%	2.8%	2.3%	2.0%	1.4%
Japan cash	0.0%	1.5%	1.5%	1.2%	0.8%
SOVEREIGN BONDS					
Global sovereign, all maturities	1.2%	1.5%	1.2%	0.9%	0.4%
Global 10-year sovereign	1.1%	1.4%	1.1%	0.8%	0.3%
10-year US Treasuries	2.2%	2.7%	2.2%	2.0%	1.4%
10-year German Bunds	-0.3%	0.4%	0.0%	-0.3%	-0.9%
10-year Swiss bonds	-1.0%	-1.0%	-1.2%	-1.5%	-2.0%
10-year Japan bonds	-0.4%	1.0%	1.0%	0.7%	0.3%
10-year UK bonds	0.8%	2.2%	1.7%	1.4%	0.8%
EM debt (local currency)	5.5%	6.0%	5.5%	5.3%	4.7%
EM debt (hard currency)	5.0%	5.5%	5.0%	4.8%	4.2%
CORPORATE BONDS					
Global HY	4.6%	4.2%	3.8%	3.5%	2.9%
US high yield	4.6%	5.1%	4.6%	4.4%	3.8%
Euro high yield	2.5%	3.2%	2.8%	2.5%	2.0%
Global IG	3.3%	2.9%	2.5%	2.2%	1.6%
US investment grade	3.3%	3.8%	3.3%	3.1%	2.5%
Euro investment grade	1.3%	2.0%	1.6%	1.3%	0.7%
Corporate EM debt	4.2%	4.7%	4.2%	4.0%	3.4%
EQUITIES					
MSCI World USD	5.8%	6.2%	5.8%	5.5%	5.0%
MSCI AC World USD	5.9%	6.3%	5.9%	5.6%	5.1%
US equities	5.7%	6.2%	5.7%	5.5%	4.9%
US small caps	5.7%	6.2%	5.7%	5.5%	4.9%
Europe equities	5.2%	5.9%	5.5%	5.2%	4.7%
European small caps	6.4%	7.2%	6.7%	6.4%	5.9%
Euro equities	5.5%	6.2%	5.8%	5.5%	4.9%
Asia (Ex-Japan) equities	7.5%	8.0%	7.5%	7.3%	6.7%
Japanese equities	4.9%	6.3%	6.3%	6.0%	5.6%
Swiss equities	5.4%	5.4%	5.2%	4.9%	4.4%
UK equities	5.0%	6.4%	5.9%	5.6%	5.0%
ALTERNATIVES					
Private equity	10.2%	10.7%	10.2%	10.0%	9.4%
Private equity real estate	5.5%	6.0%	5.5%	5.3%	4.7%
Hedge funds	4.7%	5.2%	4.7%	4.5%	3.9%

* Past performance or forecasts are not per se a reliable indicator of future performance.

A MODIFIED APPROACH FOR A LOW RETURN ENVIRONMENT

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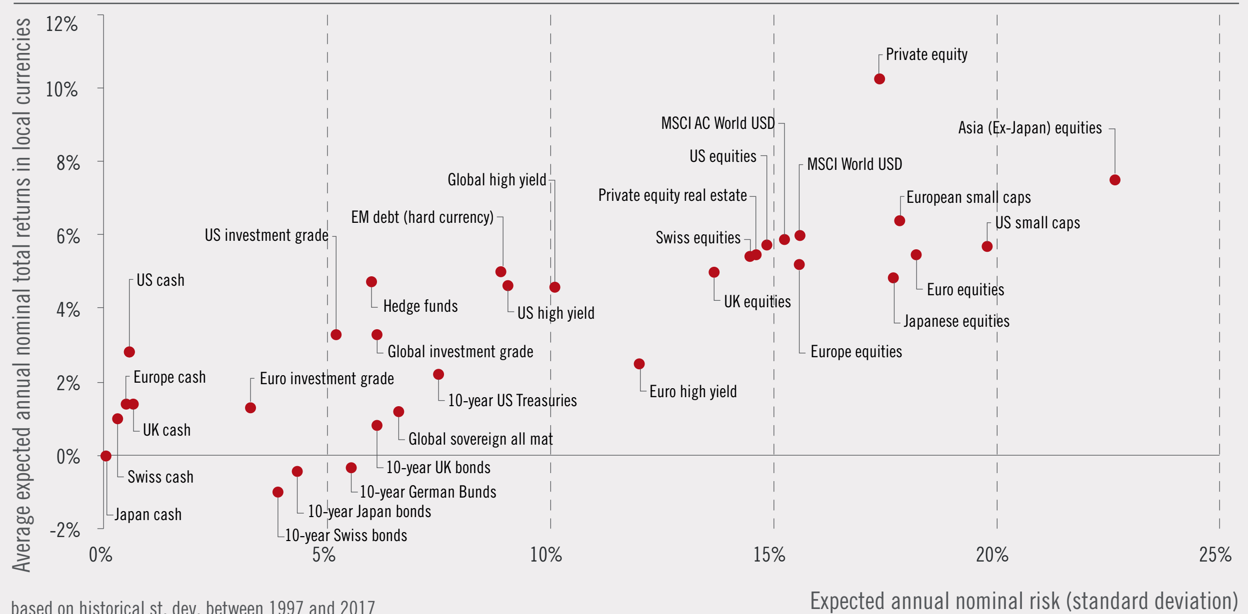
Dear Reader,

Welcome to this abridged edition of *Horizon*, where Pictet Wealth Management (PWM) sets out our rationale behind our expected returns forecasts relative to risk for the next ten years across some 35 asset classes.

This exercise forms the basis of our strategic asset allocation policy – our core decisions on asset class weightings over the long term. It also helps enormously with client expectations and transparent communications. We choose a 10-year time period because our client profile typically exhibits a long term investment horizon – often with a view towards the next generation – but also because we judge 10 years to be an appropriate period, encompassing as it does typical and full economic and market cycles.

The main message from our work is that we have entered a low returns environment and consequently are modifying our approach to asset allocation. This edited version of Horizon is designed for those who have perhaps more interest in the conclusions of our analysis in terms of hard numbers – and the justification of those conclusions – rather than the complex methodology that lies beneath. We hope it sets out in accessible form the journey we make from our initial, top-down macroeconomic analysis to arrive first at our expected returns and, finally, to the implications this has for our clients in terms of portfolio composition. ■

CHART 1 - EXPECTED RETURNS VERSUS HISTORICAL RISK



based on historical st. dev. between 1997 and 2017

From the top down: economic regimes and macro factors

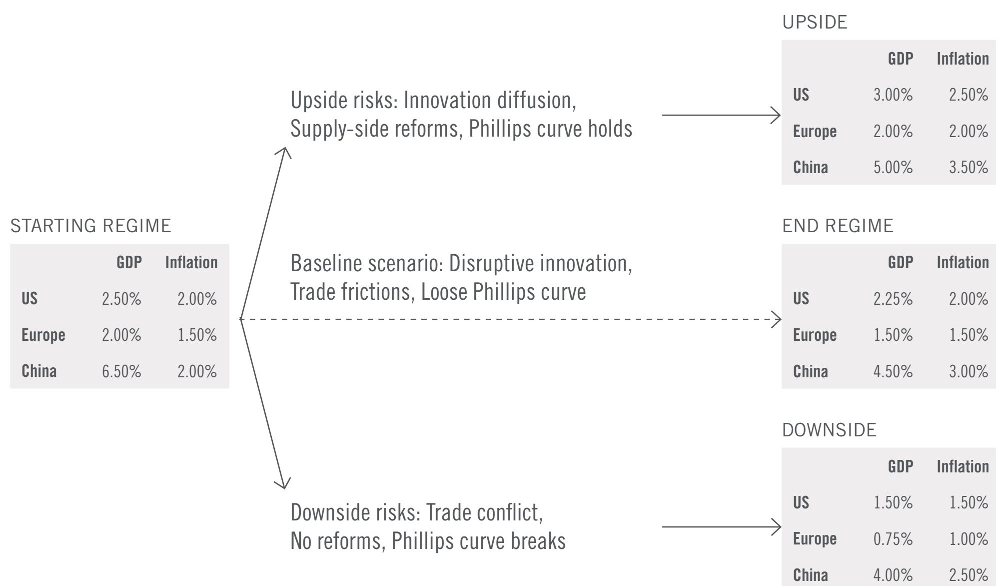
At Pictet Wealth Management (PWM) we base our expected returns on an asset pricing model that is a function of the underlying economic regime. It is the economic regime that determines levels of real economic growth and inflation – the two drivers of expected returns. A regime shift, therefore, has profound implications for asset prices and valuation.

A regime shift can be identified where there is a shift in the average level of the real GDP growth rate and/or inflation rate as measured, for example, by the consumer price index (CPI). Examples include the subprime crisis when in late-2007 US real GDP plunged suddenly from a relatively stable six-year average of 2.6% to an average of -1.25% in the period to June 2009: definitively a deflationary regime. Following that June 2009 trough, with the help of extraordinary monetary and fiscal measures, US real GDP growth has averaged nearly 2% in a regime that can be defined as reflationary.

Another example relates to inflation. For example in October 1973 OPEC countries caused the price of a barrel of crude oil to spike by a factor of three in just a few months, causing rampant inflation throughout Western economies.

Political conditions also have the potential to cause an economic regime shift. Currently, the rise of populism threatens to create adverse shifts in economic and market regimes. The relative geopolitical power of the US is waning and with this diminution in dominance a multi-polar world may emerge, making room for economic and market regime shifts.

CHART 2 – SECULAR OUTLOOK: ECONOMIC REGIMES AND THE BALANCE OF RISKS



STARTING REGIME

	GDP	Inflation
US	2.50%	2.00%
Europe	2.00%	1.50%
China	6.50%	2.00%

UPSIDE

	GDP	Inflation
US	3.00%	2.50%
Europe	2.00%	2.00%
China	5.00%	3.50%

END REGIME

	GDP	Inflation
US	2.25%	2.00%
Europe	1.50%	1.50%
China	4.50%	3.00%

DOWNSIDE

	GDP	Inflation
US	1.50%	1.50%
Europe	0.75%	1.00%
China	4.00%	2.50%

Source: Pictet WM-AA&MR

Innovation has demonstrated a capacity to introduce paradigm shifts that have a material – sometimes transformative – bearing on economic growth. The combination of the technological innovation wave and globalisation is changing the dynamics of the global economy because of its four characteristics: it is disruptive, deflationary, global and its exponential effects should materialise over time.

Chart 2 sets out our baseline scenario for inflation and GDP growth together with associated risks. In this we take account of disruptive innovation, a degree of constancy between the relationships of economic activity and slack with wage growth and inflation as expressed by the Phillips curve and the avoidance of a full-blown trade war.

Our macroeconomic analysis leads to a number of observations in three critical areas: monetary policy, inflation and global debt.

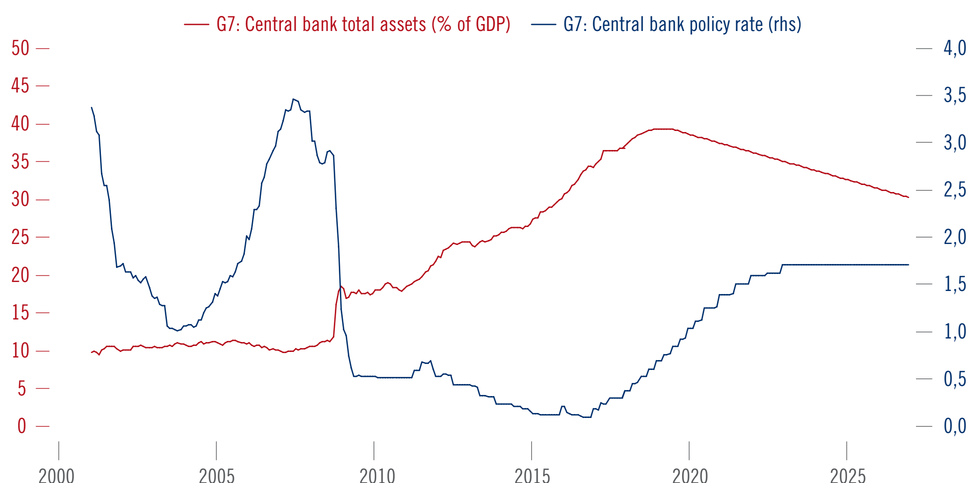
Monetary policy: entering a new era

We are reaching the end of an era of extraordinary central bank policy measures. The heavy and sustained purchasing of financial assets by central banks from banks and other financial institutions since the financial crisis of 2007/8 – quantitative easing (QE) – may not have created growth but may well have averted a depression.

Central banks, nonetheless, remain vigilant and accommodating. In tandem with gradual unwinding of QE, our forecasts are based on the normalisation of central bank policy rates, as indicated by Chart 3, with low terminal rates in general, albeit with large differences across countries.

While it would be wrong to dismiss the re-emergence of deflationary forces in the next downturn or financial crisis, this risk has significantly diminished. Still, if and when deflationary pressures return, central banks' ability to influence events is compromised by the efforts of the past decade, particularly in the euro area where easing capacity is limited.

CHART 3 - G7: CENTRAL BANK BALANCE SHEETS AND POLICY RATES



Source: Pictet WM - AA&MR, Thomson Reuters

“New tools and strategies may emerge, including asset-price and inflation targeting and more explicit coordination between central banks.”

New tools and strategies may emerge if and when all else fails, including asset-price targeting, inflation targeting and more explicit coordination between central banks but it would appear that the focus of any market intervention is inevitably shifting away from monetary policy to fiscal policy (something most evident of late in the announcement of tax cuts in the US).

Normalisation also comes fraught with political implications. Governments benefited greatly from monetary accommodation as it lowered the cost of borrowing and made increased debt more justifiable – a windfall that politicians naturally grabbed with both hands.

That state of affairs could never last. And while GDP growth in general may be relatively healthy, the prospect of rising rates and normal fiscal constraints means hard choices between higher taxes and reduced spending/higher debt. Ultimately, this economic background may rebound on central banks with their independence implicitly threatened over the issue of interest rate rises.

Inflation: strange behaviours and new global dynamics

Inflation destroys value and hence is the subject of constant vigilance on the part of central banks. The ability of central banks and policymakers to target inflation has been frustrated by the unexpected behaviour of the Phillips curve which relates inflation rates to some measure of economic slack such as the unemployment rate or output gap.

Following the crisis, most developed economies experienced a so-called ‘missing deflation’ episode when a very large and abrupt widening in output gaps failed to result in a proportional decline in inflation rates. On the other hand, following several years of economic recovery and falling unemployment, inflation and wages have failed to respond to the rise in the rate of capacity utilisation, – a so-called ‘missing inflation’ puzzle.

This has led to intense debate as to whether the Phillips curve is dead. This is not a view we share, nor is it shared by incoming Fed governor Jerome Powell or his predecessor Janet Yellen. We believe that the more recent changes to Phillips curve dynamics (it is flatter) relative to pre-crisis inflation levels most likely stem from a combination two categories of drivers: global factors including the commodity cycle, globalisation and innovation, and structural changes in the labour market. In this context we expect inflation to rise gradually but we note the potential for Asia to export inflation to developed markets, particularly in the case of China due to a shrinking labour force and rising labour costs.

Global debt: manageable levels but China a concern

Excessive debt levels increase economic vulnerability and consequently have the ability to derail economic forecasts.

There is no consensus on the threshold at which debt levels begin to affect growth or trigger deleveraging. We know that debt fuels growth but at some point the harm outweighs the benefits as investment and consumption are reduced when private sector income is directed to debt servicing. High debt levels increase the fragility of non-financial corporations and households to changes in the business cycle, inflation and interest rates and also promotes uncertainty.

We believe overall global debt levels are manageable. Europe is highly heterogeneous although some individual country debt levels remain troublingly high and have not seen the same extent of deleveraging as the US and UK. China debt levels have the capacity to keep global markets awake at night but closer inspection reveals the singular nature of that country's debt profile may help observers rest easier.

China debt is a concern for four reasons: the potential global impact of a credit crunch; the rate of debt growth; the indebtedness levels of non-financial corporates; the rapid growth of shadow banking. In mitigation, the vast majority of Chinese debt is borrowed domestically and two-thirds of non-financial corporate debt is owned by state-owned enterprises. ■

EXPECTED RETURNS

"As central banks force short-term rates higher, 10- year government bonds are poised to make historically low returns."

An overview by asset class

Our findings in relation to expected returns are consistent with established investment theory and experience: better returns require taking more risk.

Of course, investment risk is diminished by time which has the effect of ironing out short-term fluctuations in performance and this is reflected in our 10-year investment horizon. For the same reason our expected returns are impervious to the business cycle. A 10-year period is sufficiently long to cover a full business cycle therefore we neither anticipate (nor have cause to time) business cycles in the context of our expected returns model.

Individual asset classes tend to exhibit certain risk/return characteristics that distinguish each class from another but these generalities come with a caveat: they are generalities, not hard rules.

For example, equities in general are considered to be riskier than bonds with a higher expected return and volatility but individual equities exhibit widely varying risk/return characteristics. Within the bond class sovereign bonds are considered far less risky than high yield bonds. Cash is the least risky asset class of all.

Nonetheless, and based on our analysis, it is possible to make some broad observations on the prospects for individual asset classes.

Cash: central banks driving short term rates higher

Our core economic scenario for the next 10 years assumes interest rate normalisation, both for short-term and long-term rates. Yet, due to the current size of central banks' balance sheets, this normalisation process will take more than 10 years, which means short-term rates should remain fairly low. The Fed has already started to hike rates and similar movements are expected in other currency areas, leading to a rise in rates globally. This process will lead to positive yields everywhere and to improved returns on cash over the next 10 years.

Government bonds: lacklustre returns in prospect

Long-term analysis shows that nominal sovereign yields closely track nominal GDP growth. But this relationship has been distorted by the central bank policies of recent years. Intervention by central banks (generally in the form of massive government bond purchases) has exerted downward pressure on long-term yields, which have become abnormally low relative to nominal GDP growth. As central banks force short-term rates higher, 10-year government bonds are poised to make historically low returns. German, Japanese and Swiss bonds will be net value destroyers over the next 10 years. As the Federal Reserve pushes Fed funds target rates higher, protection through US Treasuries will come at a cost, with 10-year expected returns of just 2.2%.

Corporate bonds: high yield still attractive

Excluding major events such as the global financial crisis of 2008-09, history shows that the latest US **investment grade** (IG) yield is a fairly good proxy for the 10-year expected return from investment grade corporate bonds.

High yield (HY) bonds have both fixed income and equity characteristics. The strong correlation between HY spreads and the VIX equity volatility index is a good illustration of this. In periods of financial stress, HY spreads tend to climb in tandem

with equity risk. But this parallel between the VIX and HY spreads has its limits: VIX is the so-called 'fear gauge' for blue-chip US companies quoted on the S&P 500, which generally have investment grade ratings, whereas the US HY universe mainly consists of mid to small caps.

Nonetheless, analysis shows that over a 10-year period, total returns for USD HY follow a pattern much more similar to that for IG bonds than the S&P 500. And there are long periods when HY does better than equities (the period 2008 to 2014, for example) and vice versa. The narrow gap between 10-year equity returns and HY returns since 2014 is unprecedented in the past 20 years.

Unlike US IG, yields are not a good proxy of future returns in the case of US HY, since a higher yield is just what investors demand to compensate for the extra default risk. For the purposes of our calculation of expected returns, the default rate matters less than the final loss rate from HY bonds. The loss rate combines the default rate with an eventual recovery rate as, unlike equity, a credit event does not necessarily mean a bankruptcy leading to a 100% loss of capital.

Equities: still attractive despite lower returns

Equities will continue to post solid returns driven by earnings growth – albeit below levels of recent decades. Developed market equities now trade slightly lower than at the height of their historic multiples but valuations and the economic outlook do not currently offer much support to long-term returns. Over a 35-year period US blue chips delivered an average annual nominal total return of 8.6% as compared to our 10-year expected average annual returns of 5.3%.

In terms of earnings growth for broad indices in developed equity markets, we take it for granted that earnings growth will converge towards nominal GDP growth over a 10-year period, with three exceptions. In **emerging markets** (EM) nominal GDP growth does not fully translate into earnings growth for EM corporates. This is taken into account in our forecasts but the more mature the economy, the more nominal GDP growth matches corporate earnings growth. High external exposure may protect valuations such as in the case with Japan. That country has been suffering from low nominal growth for many years, but the high non-domestic exposure of Japanese companies means they report earnings growth well above what nominal Japanese GDP suggests it should be. With **small caps**, the combination of low nominal growth and high valuations means we expect total annual returns on equities below the 8.6% long-term average for the S&P 500 over the next 10 years. Typically, small cap earnings grow faster than the overall economy.

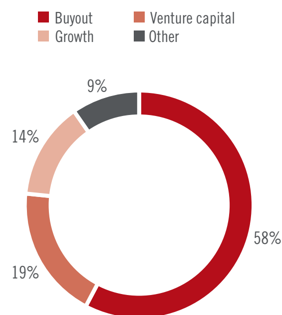
Alternatives: harvesting the illiquidity premium

One outstanding feature of our expected returns analysis is the risk/return performance of alternative asset classes, predominantly hedge funds and private equity. The latter is something of an outlier in our analysis with an expected return of 10.2% against a volatility of 17%.

Measuring **hedge fund** (HF) returns is not straightforward. Unlike listed equities, it can be quite difficult to invest optimally in hedge funds, many of which are closed to new subscriptions. For the same reason the two established hedge fund indices also have limitations. This asset class is far from homogeneous, and there is a huge dispersal

"Equities will continue to post solid returns driven by earnings growth – albeit below levels of recent decades."

CHART 4 - GLOBAL PRIVATE EQUITY AUM DECOMPOSITION BY ASSET CLASS



Source: Pictet WM - AA&MR, Preqin
* As at Q2 2017

in returns between different hedge fund strategies (CTA, long/short equity, distressed debt etc.). Picking the right hedge fund strategy could significantly improve the trade-off between risk and expected returns.

There is a major difference between private capital and most other asset classes: that is, private capital is not listed and therefore does not offer the same liquidity. This does not appear to have inhibited its growth trajectory and private capital assets under management (AUM) increased by a factor of seven since 2000 to reach USD 4,915 billion.

Private capital is also getting more diverse but is still clustered around two main groups that account for around three-quarters of the class. While Infrastructure (8%) and Private Debt (13%) have grown of late, Private Equity (57%) and Private Equity Real Estate (PERE) (17%) dominate.

Private equity is not a homogeneous category of private capital (see chart 4). The most prominent form is start-up financing, yet venture capital accounts for less than 20% of private equity, while the bulk of private equity is clustered in buyout funding with just under 60% of the total. Buyout is quite different from start-up financing. Here, the aim is to buy an existing business, make it more efficient and grow it before selling. This is the core of private equity.

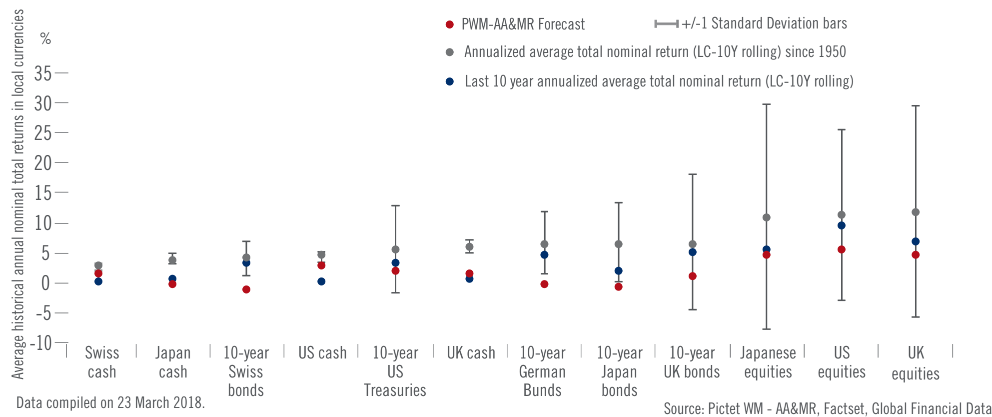
High returns make private equity attractive. Since 2010, global private equity has delivered an annual total return of 13.5% net of fees compared with 9.7% for the MSCI AC World total return. Over the past 20 years, private equity's return above listed markets is even stronger (13% vs. 6.5%). The superior return of private equity is usually considered an illiquidity premium. There are four factors behind these superior returns.

First, it is quite unusual to exert direct control on a firm when invested in listed equities. In the case of private equity, the point of a fund is to have a material impact on managing the company in order to make it more efficient relative to peers.

The second factor is directly linked to the illiquidity of this kind of investment. The investment is not liquid but there are occasional windows for investors to exit in order to optimise returns.

The third driver is leverage. A better managed company can sustain more debt which makes it possible to amplify returns for investors. Currently there is roughly twice more leverage in global PE buyout in terms of enterprise value (EV)/ equity than in the MSCI AC World. The fourth factor is sector allocation. Sector breakdown on listed markets is different from private markets. Private equity will target investment in growing areas and/ or companies that can be optimised or turned around.

CHART 5 - EXPECTED RETURNS VS 10-YEAR ROLLING AVERAGE ANNUAL NOMINAL TOTAL RETURNS IN LOCAL CURRENCIES SINCE 1950 AND, +/-1 ST. DEV. BARS AND LAST 10 YEAR AVERAGES*



* Past performance or forecasts are not per se a reliable indicator of future performance.

Diminishing returns have become the norm

A central theme of this edition of *Horizon* is that diminishing returns in general is now the norm. Major asset classes' 10-year expected annual nominal total returns are lower in all cases than the 10-year rolling average annual returns over the past few decades. Average returns for the last 10 years are also lower than averages since 1950 for most asset classes.

Chart 5 shows the historical 10-year rolling average total annual nominal returns in local currencies for asset classes for which data exists since 1950 and over the last 10 years, together with their +/– one standard deviation range since 1950 and our 10-year forecast.

From the chart we can see that major asset classes' 10-year expected annual nominal total returns are lower in all cases than the 10-year rolling average annual returns since 1950. Furthermore, the last 10-year average returns are lower than averages since 1950. Our expected returns are higher compared to the last 10 years' average returns in only three cases: Swiss cash, US cash and UK cash.

Some observations from Chart 5 confirm the new phase of diminished returns:

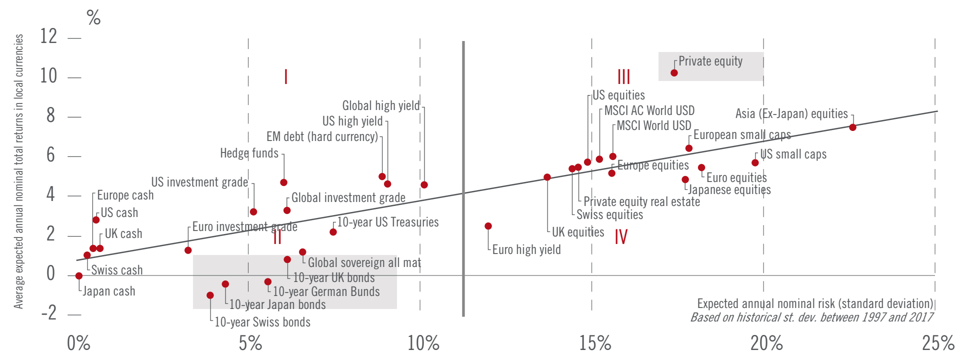
- Within the fixed income space, only 10-year US Treasuries and 10-year UK bonds have expected returns scoring roughly between the historical average and a full standard deviation below the historical average.

- Reflecting the regime shift underway for long-term government bonds, all other 10-year government bonds (Swiss, German and Japanese) have expected returns close to or under a full standard deviation below the 1950-historical average.

- Asset classes with expected returns that are more than a full standard deviation below historical averages are Japan cash, 10-year Swiss bonds, US cash, UK cash and 10-year German Bunds.

- Among equities, US equities have provided the best risk/return profiles for

CHART 6 - MAJOR ASSET CLASSES' EXPECTED ANNUAL NOMINAL TOTAL RETURNS AND RISK IN LOCAL CURRENCIES*



investors with an average total return of 11.3% since 1950 and a standard deviation of 14.3%. Japanese and UK equities have delivered average returns of roughly the same magnitude as US equities over the same period, 11.0% and 12.0% respectively, but with higher risk.

- Since 1950, 10-year German bunds have provided slightly more than one full percentage point higher average 10-year rolling return than 10-year US Treasuries (6.7% vs. 5.6%) with less risk (5.2% vs. 7.3%). In terms of low historical dispersion of returns, as measured by standard deviation, 10-year Swiss government bonds score best compared to all other 10-year government bonds.

Assessing the risk/return equation

Expected returns means little on its own without a risk context. Risk is usually measured by the dispersion of yearly returns around the 10-year average return, (standard deviation). Chart 6 shows the wide variance of risk/return profiles among the 35 asset classes we cover in our analysis.

From these expected risk/returns forecasts we have drawn a vertical line, separating the investment universe into two halves. On average, assets to the left of the line bear roughly half the risk of assets to the right and, according to the risk-return trade-off rule, therefore generate less expected returns.

We have also constructed an upward sloping trend line, or regression line. Asset classes underneath the trend line have roughly half the risk/return ratios of asset classes above. The boundaries delimited by these two lines result in four quadrants, labelled I, II, III and IV to which we can attribute some broadly applicable qualities.

Despite low returns, assets in quadrants I and II are potential candidates to mitigate risk in portfolios that include the higher-risk assets of quadrants III and IV. Nevertheless, their attractiveness may vary according to prevailing regimes.

- Within cash assets bearing a low standard deviation of less than 1% in quadrant I,

US cash is expected to offer the highest return of 2.8% compared to 1.4% for UK cash, Swiss cash and Europe cash and 0.0% for Japanese cash.

- Further up in quadrant I, US investment grade corporate bonds is expected to offer an equivalent return of 3.3% as global investment grade corporate bonds, but with less risk: (5.2% compared to 6.1%).

- For an equivalent standard deviation of roughly 6%, hedge funds provide an expected return of 4.7%, compared to 3.3% for Global investment grade corporate bonds. For an equivalent return, hedge funds offer lower risk than equity-like assets: 9.1% for US high yield and 10.1% for global high yield. Bear in mind, however, that only long-term investors should consider hedge funds as part of their asset allocation due to their illiquid nature and the time needed to realise their full potential.

- Within high yield corporate bonds, US high yield corporate bonds in quadrant I outshine euro high yield bonds in quadrant IV, with an expected return of 4.6% and a standard deviation of 9.1%, compared to 2.5% and 12.0%. Global high yield stands between US high yield and euro high yield with an expected return of 4.6% and a standard deviation of 10.1%.

- Within the shaded area of quadrant II, 10-year Swiss, Japanese, and German bunds look unattractive, owing to negative expected returns of – 1.0%, – 0.4% and – 0.3% and standard deviations ranging from 3.9% to 5.6%. We include the 10-year UK bonds in this group, even though we expect them to deliver a slight positive return of 0.8%.

- Outside the shaded area, 10-year US Treasuries provide a risk/return profile that appears more attractive than all other 10-year government bonds. This is one of the key reasons why – other than their high liquidity – 10-year US Treasuries continue to be the asset of choice to mitigate risk of portfolios containing assets of quadrants III and IV. They should deliver an expected return of 2.2%, with a standard deviation of 7.5%. Nonetheless, due to their safe haven status and their high liquidity, 10-year US Treasuries continue to be the asset of choice to include in portfolios, offering protection in the event of regime shifts associated with economic recession, financial crash or the rise of systemic risk – albeit only within non-inflationary events. No doubt a shock associated with sudden rises in inflationary pressures would result in higher bond yields, causing 10-year US Treasuries to depreciate (the opposite of their intended role in a portfolio).

Assets in quadrants III and IV display very different characteristics Most assets of quadrants III and IV feature risk/return measures near the average trend line. Meanwhile, private equity features as a high return-generating asset, with comparable risk to traditional equities. Private equity exhibits an attractive risk/return profile and stands out as an outlier in the shaded area of quadrant III, well above the trend line.

- For a comparable risk level of around 17%, private equity provides a significantly higher expected average annual return of 10.2% compared to 6.4% for European small caps. Furthermore, it

"Private equity features as a high return-generating asset, with comparable risk to traditional equities."

should be noted that the alpha provided by private equity has been persistent over the 25 years we have included this asset class among our investments.

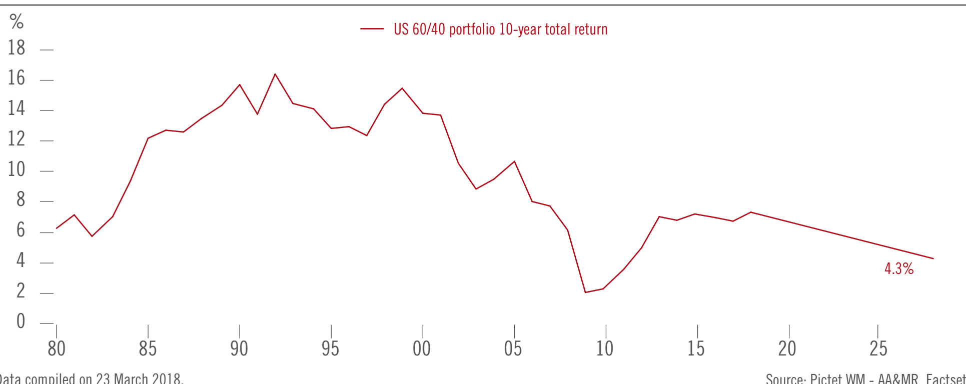
- Private equity real estate is expected to deliver an average annual return of 5.5%, close to the 5.7% of US equities, albeit with a lower risk of 14.6%, compared to 14.9%. Once again, as with hedge funds, private equity investments and private equity real estate are illiquid assets and should be considered by long-term investors only.

- Within the equities space, risk/return profiles are fairly similar for developed country large capitalisation stocks. Nevertheless, the 5.7% expected return of US equities and the 5.4% for Swiss equities compare slightly better to the 5.2% average annual for European equities and 4.9% for Japanese equities. The same holds true for risk measures, with respective standard deviations of 14.9% and 14.5% vs 15.6% and 17%. These risk measures underscore the defensive nature of the Swiss equity market, which is dominated by large pharmaceuticals and consumer staples.

- Within small capitalisations stocks, Europe in quadrant III compares better than the US in quadrant IV, with expected returns of 6.4% compared to 5.7% and risk of 17.8% compared to 19.8%.

- Emerging markets can be rewarding at times depending on prevailing regimes – of the US dollar in particular – but long-term risk tends to be significant. Accordingly, the 7.2% expected return for Asia (ex-Japan) equities is the highest among all assets but at 22.6% the associated risk is also the highest. As a result, this class is expected to perform below average, under the trend line in quadrant IV, in terms of both return and risk.

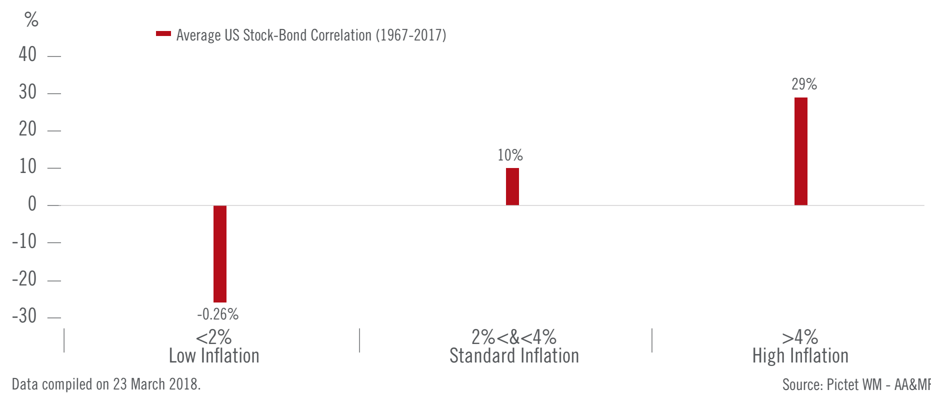
CHART 7 - US 60/40 PORTFOLIO 10-YEAR ANNUALIZED HISTORICAL RETURN AND 10-YEAR EXPECTATION*



Data compiled on 23 March 2018.

Source: Pictet WM - AA&MR, Factset

CHART 8 - CORRELATION COEFFICIENT VERSUS INFLATION



Data compiled on 23 March 2018. Source: Pictet WM - AA&MR,

> "We expect the impact of low expected returns on strategic asset allocation to be significant."

Portfolio construction and correlation

Ultimately, the whole point of the expected returns exercise is to determine our attitude to portfolio construction over the long term: in other words, our strategic asset allocation policy. We expect the impact of low expected returns on strategic asset allocation to be significant.

Historically, the two main assets included in a diversified portfolio were equities and long-term bonds. This led to the simple model portfolio benchmark of 60/40 (60% US equities and 40% 10-year Treasuries). Our 10-year expectations for those two assets are below the long-term average, especially for 10-year US Treasuries whose expected return at 2.2% is close to the lowest decile over the past two centuries (see chart 7). As a result, a standard 60/40 portfolio is expected to return around 4.3% annually.

So we are leaning towards a modification in investment style from the classic, efficient 60/40 portfolio. While this model portfolio has been highly efficient in the past, we anticipate a change in style from this traditional bonds/equity mix to more of an endowment style, incorporating 'high octane' alternative assets to augment the risk-return profile of the major asset classes.

As a consequence, we are building an increased long term presence for illiquid asset classes such as private equity (a good substitute for equities) and private equity real estate (a good substitute for long term bonds) – but of course always with due regard for particular circumstances in terms of liquidity and risk requirements.

In the context of portfolio construction, PWM's expected returns analysis now covers 35 asset classes (the first edition of Horizon back in 2014 covered just 11 asset classes). This wider coverage gives us greatly enhanced flexibility.

Diversification is the cornerstone for optimisation of the risk/return profile of a portfolio. From a risk management perspective, the benefit of not being exclusively (or excessively) exposed to a single asset class is obvious, but for diversification to be truly effective, understanding the correlation of those assets is also critical.

Were all asset classes in a portfolio to move in the same direction as each other (perfect correlation, +1) there would be no diversification benefit. As soon as correlation is below 1, the diversification benefit begins to emerge. With a zero correlation, (assets moving independently of each other) risk reduction is already significant. Risk reduction is even stronger when correlation turns negative.

One of the reasons the standard 60/40 portfolio is considered a benchmark is because stocks and bonds have historically exhibited negative correlation – but this has not always been the norm. Inflation is a critical factor in levels of stock/bond correlation as the chart shows in the case of US assets.

Correlation factors are critical in building balanced portfolios and it is worth examining historical factors highlighted in chart 9. The matrix gives you some indication of typical correlations between assets and groups of assets but bear in mind that estimating future correlation poses challenges. First, historical estimates of correlation are highly dependent on the chosen measurement period. Second, correlations are not stable over time and can, for example, be linked to crisis events and other factors. ■

CHART 9 - HISTORICAL CORRELATION – MAJOR ASSET CLASSES (20-YEAR CORRELATION ON QUARTERLY DATA)

last 20y	ICE BofAML US Treasury Bill	ICE BofAML Current US Treasury (10-Y)	Bloomberg Barclays Global Treasury (7-10 Y) - GDP Weighted	ICE BofAML US Government (All Maturity)	Bloomberg Barclays Global Treasury	ICE BofAML Global Broad Market	ICE BofAML US Corporate	ICE BofAML Global Corporate	ICE BofAML US High Yield	Bloomberg Barclays Global High Yield	S&P 500 (1970)	Russell 2000	MSCI World Index	MSCI Japan	MSCI EM (Emerging Markets)	MSCI AC Asia ex JP	MSCI AC World ex USA	MSCI World ex USA	HFRX Global Hedge Fund (USD)	Private Equity (US Buyout)	US Private Equity Real Estate
ICE BofAML US Treasury Bill	100%																				
ICE BofAML Current US Treasury (10-Y)	14%	100%																			
Bloomberg Barclays Global Treasury (7-10 Y) - GDP Weighted	-1%	55%	100%																		
ICE BofAML US Government (All Maturity)	28%	98%	56%	100%																	
Bloomberg Barclays Global Treasury	9%	59%	90%	61%	100%																
ICE BofAML Global Broad Market	10%	56%	90%	58%	98%	100%															
ICE BofAML US Corporate	-2%	43%	54%	44%	53%	64%	100%														
ICE BofAML Global Corporate	-1%	23%	75%	25%	76%	85%	82%	100%													
ICE BofAML US High Yield	-24%	-46%	1%	-46%	-6%	6%	49%	48%	100%												
Bloomberg Barclays Global High Yield	-21%	-48%	11%	-46%	-2%	10%	46%	52%	96%	100%											
S&P 500 (1970)	-16%	-60%	-12%	-60%	-18%	-12%	8%	22%	67%	70%	100%										
Russell 2000	-17%	-62%	-16%	-60%	-23%	-18%	3%	15%	65%	69%	91%	100%									
MSCI World Index	-13%	-59%	-1%	-58%	-6%	0%	15%	35%	70%	75%	97%	89%	100%								
MSCI Japan	-15%	-48%	-2%	-50%	-6%	-4%	2%	23%	40%	46%	65%	64%	73%	100%							
MSCI EM (Emerging Markets)	-10%	-53%	6%	-51%	-7%	0%	19%	34%	71%	77%	78%	78%	84%	68%	100%						
MSCI AC Asia ex JP	-9%	-46%	4%	-45%	-5%	2%	18%	32%	62%	68%	74%	73%	80%	66%	95%	100%					
MSCI AC World ex USA	-9%	-55%	9%	-53%	4%	11%	22%	45%	71%	77%	88%	84%	97%	77%	89%	84%	100%				
MSCI World ex USA	-9%	-54%	9%	-53%	5%	12%	20%	45%	68%	75%	89%	84%	97%	78%	85%	80%	100%	100%			
HFRX Global Hedge Fund (USD)	21%	-45%	-8%	-39%	-13%	-3%	21%	30%	54%	61%	58%	58%	63%	52%	66%	61%	65%	64%	100%		
Private Equity (US Buyout)	-6%	-51%	-10%	-50%	-18%	-15%	-6%	11%	50%	55%	77%	73%	79%	62%	69%	63%	77%	76%	59%	100%	
US Private Equity Real Estate	19%	-15%	-12%	-15%	-12%	-9%	-11%	-2%	8%	9%	28%	25%	29%	24%	18%	16%	27%	28%	38%	54%	100%

Data compiled on 23 March 2018

Source: Pictet WM - AA&MR, Factset

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